



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/568,126	02/14/2006	Yasuo Masuda	SHIGA7045APC	1055
20995	7590	06/28/2006		
		KNOBBE MARTENS OLSON & BEAR LLP	EXAMINER	
		2040 MAIN STREET		CHU, JOHN S Y
		FOURTEENTH FLOOR	ART UNIT	PAPER NUMBER
		IRVINE, CA 92614	1752	

DATE MAILED: 06/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/568,126	MASUDA ET AL.
	Examiner John S. Chu	Art Unit 1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 14 February 2006.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-7 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-7 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date 2/14/06.

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.

## DETAILED ACTION

This Office action is in response to the application filed February 14, 2006.

### *Claim Rejections - 35 USC § 102*

- 1, The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5 and 7 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by BASSETT et al (5,145,763).

The claimed invention is drawn to the following:

1. A positive photoresist composition formed by dissolving (A) photosensitive novolak resin comprising an alkali soluble novolak resin wherein some hydrogen atoms within those of all phenolic hydroxyl groups of the alkali soluble novolak resin are substituted by 1,2-naphthoquinone diazide sulfonyl groups, in (B) an organic solvent containing a propylene glycol alkyl ether acetate.

BASSETT et al discloses a positive resist composition comprising a reaction product of a novolak resin and a naphthoquinonediazide sensitizer. The solvent used to formulate the composition is disclosed column 8, lines 58-66 which include propylene glycol monomethyl ether acetate, and mixtures with those other listed solvents thereof. The o-quinone diazide compound is reacted in an amount of 5 to 10% based on the theoretical molar level of hydroxyl groups in the resin, thus the endpoints of the preferred range fall within the claimed range of the claimed proportions of the substituted hydrogen atoms as recited in claim 2. The method as

claimed in claim 7 is met by the disclosure in column 9, lines 7-29 wherein the composition is coated, baked, exposed and developed.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over OKAZAKI et al (5,422,221) in view of NISHI et al (5,759,736).

The claimed invention has been recited above and is included by reference.

OKAZAKI et al discloses a positive photoresist composition comprising a photosensitive novolak resin having 3% to 27 mol percent of the hydrogen atoms on the resin replaced with a 1,2-naphthoquinonediazide-sulfonyl group, see column 2, line 49- column 3, line 2. The resin used in the condensation reaction has a weight average molecular weight of 1,000 to 10,000.

OKAZAKI et al lacks a working example comprising a photoresist composition comprising a mixture of an ethyl lactate solvent and a propylene glycol alkyl ether acetate mixture as recited in claim 6.

NISHI et al disclose positive working photoresist compositions comprising novolak resin, which has been esterified with a quinonediazide compound and dissolved in a solvent mixture of ethyl lactate and propylene glycol monomethyl ether acetate. The use of a mixture of solvents is known and disclosed in column 6, line 49 – column 7, line 10 and include ethyl lactate and

propylene glycol monomethyl ether acetate, in fact Example 1 uses that exact solvent mixture, see column 8, lines 20-40.

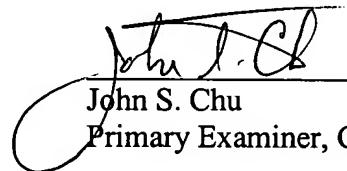
It would have been *prima facie* obvious to one of ordinary skill in the art of positive working photoresist compositions to use a mixture ethyl lactate and polypropylene glycol monomethyl ether acetate to dissolve the components of OKAZAKI et al and reasonably expect same or similar results with respect to smooth coating properties and excellent storage stability.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Chu whose telephone number is (571) 272-1329. The examiner can normally be reached on Monday - Friday from 9:30 am to 6:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Cynthia Kelly, can be reached on (571) 272-1526

The fax phone number for the USPTO is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PMR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
John S. Chu  
Primary Examiner, Group 1700

J. Chu  
June 24, 2006